Attorney Docket No. A-72343 Dorsey File No. 470425-00018

MAR 1 5 2006

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

HENSON et al.

Serial No.:

10/602,546

Filing Date:

June 23, 2003

For:

Use of Endophytic Fungi to Treat

Plants

Examiner:

Not Yet Assigned

Art Unit:

1616

Certificate of mailing:

I hereby certify that foregoing Information Disclosure Statement has been filed with the United States Patent and Trademark Office via U.S. Mail, First Class, postage prepaid addressed to the Commissioner for Patents, Mail Stop Amendment, at P.O. Box 1450, Alexandria, VA 22313-1450 on this 13th day of March, 2006.

Victoria Linne Poulsen

INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment Commissioner for Patents P. O. Box 1450 Alexandria, VA 22313-1450

Sir:

In satisfaction of the duty of disclosure under 37 C.F.R. § 1.56, and in accordance with the provisions of 37 C.F.R. §§ 1.97 and 1.98, Applicants wish to draw the attention of the U.S. Patent and Trademark Office to the references cited on the accompanying form PTO/SB/08A-B. In accordance with 1287 Off. Gaz. Pat. Office 163, 10/19/2004, no copies of U.S. patents and U.S. published applications are enclosed. Copies of all other references are enclosed.

Further, the undersigned certifies that references listed on the enclosed Form PTO/SB/8A-B, Substitute for Form PTO-1449, marked with an asterisk (*), were first cited in a communication relating to the results of the international search of PCT/US03/19983 dated

Serial No.:

10/602,546

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September 17, 2004, for the counterpart PCT application. A copy of the international search result for the counterpart PCT application is enclosed herewith.

Nothing herein shall constitute an admission concerning the contents of any of the cited references, nor shall the inclusion of a reference herein be considered an admission that the reference constitutes prior art against the invention claimed in the above-identified application. Submission of the present document shall not be construed as an admission that a search has been made or that better art does not exist.

As far as is known to the undersigned, this Information Disclosure Statement is being filed within three months of the filing date of a national application, within three months of the date of entry of the national state in an international application, or before the mailing date of a first Office Action on the merits as set forth in 37 C.F.R. § 1.97(b), and therefore no fee is required.

While no further fee is believed to be due, if this belief is in error, the Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-2319 (File No. 470425-00018; Docket No. A-72343/RMS/THR).

Serial No.:

10/602,546

Filing Date:

June 23, 2003

Please direct any calls in connection with this application to the undersigned at (415) 781-1989.

Respectfully submitted,

DORSEY & WHITNEY LLP

Dated:

March 13, 2006

BY:

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Attachments:

Copy of International Search Report from PCT/US03/19983 dated September 17, 2004 Form PTO/SB/08A-B, Substitute for form PTO 1449 38 references

| Substitute for form 1449A/PTO | | Complete if Known | | | |
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| (Modified) | Application Number | 10/602,546 | | | |
| INFORMATION DISCLOSURI | | June 23, 2003 | | | |
| 8 A TEMENT BY APPLICAN | First Named Inventor | HENSON, Joan M. | | | |
| 4 | Art Unit | 1651 | | | |
| (use as intent sheets as necessary) | Examiner Name | Irene Marx | | | |
| MAN 1 5 2006 S of 3 | Attorney Docket Number | A-72343 (470425-18) | | | |

| N. D. | MARMA | | U.S. PATENT DOCUMENTS | | | |
|-----------------------|-----------|--|--------------------------------|--|--|--|
| Examiner Initials* | Cite No.1 | U.S. Patent Document Number-Kind Code ² (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | |
| isr | A1 * | 5,880,343 | 03-09-1999 | Hiruma et al. | | |

| | | F | OREIGN PATENT | DOCUMENTS | | |
|-----------------------|-------------|---|--------------------------------|--|---|----------------|
| Examiner Initials* | Cite No. | Foreign Patent Document Country Code ² Number ⁴ Kind Code ⁵ (<i>if</i> <i>known</i>) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T [®] |
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| | | NON PATENT LITERATURE DOCUMENTS | |
|-----------------------|-----------|---|--------|
| Examiner Initials* | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T⁵ |
| isr | C1 * | AZEVEDO et al., "Endophytic, microorganisms: a review on insect control and recent advances of tropical plants", EJB Electronic J. of Biotechnology, April 2000, 3(1):40-65. | |
| | C2 | BACON, C.W., "Abiotic stress tolerances (moisture, nutrients) and photosynthesis in endophyte-infected tall fescue", Agricult. Ecosys. Environ., 1993, 44:123-141. | |
| Book | СЗ | BACON, C.W., et al., "Microbial Endophytes", 2000, Marcel Dekker Inc., N.Y. | |
| | C4 | BORDALLO, J.J., et al., "Colonization of plant roots by egg-parasitic and nematode-trapping fungi", New Phytol., 2002, 154:491-499. | |
| isr | C5 * | CARETTA et al., "Some filamentous fungi on grassland vegetation from Kenya", Mycophatholgia, 1999, 145:155-169. | |
| | C6 | CARROLL, G.C., "The biology of endophytism in plats with particular reference to woody perennials", Microbiology of the Phyllosphere (eds. Fokkema, H.J. & Van Den Heuvel, J.) 205-222 (Cambridge University Press, Cambridge, 1986). | |
| | C7 | CLAY, K., et al., "Fungal endophyte symbiosis and plant diversity in successional fields", Science, 1999, 285:1742-1744. | |
| Book | C8 | DE BARY, A., "Die Erschenung Symbiose", in Vortrag auf der Versammlung der Naturforscher und Artze zu Cassel, ed. Trubner, K.J., 1-30, Strassburg, 1879. | |
| | C9 | FREEMAN, S., et al., "Genetic conversion of a fungal plant pathogen to a nonpathogenic, endophytic mutualist", Science, 1993, 260:75-78. | |
| isr | C10 * | GHOSH et al., "Soil fungi from Orissa (India)-I", Mycologia, 1960, 52:915-918. | |
| | C11 | HERTIG, M., et al., "The terms symbiosis, symbiont and symbiote", J. Parasit., 1937, 23:326-329. | \top |
| isr | C12 * | HODGES et al., "Growth of Agrostis palustris in response to adventitious root infection by Curvularia lunata", J. Phytopathol., 1995, 143:639-642. | |
| isr | C13 * | JAIN, B.L., "Two new species of Curvularia", Trans. Br. Mycol. Soc., 1962, 45:539-544. | |

| Examiner Date Considered |
|--------------------------|
|--------------------------|

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not

USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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| | | | CLOSURE | Filing Date | June 23, 2003 | | |
| ST | ATEMENT | BY AP | PLICANT | First Named Inventor | HENSON, Joan M. | | |
| | | | • | Art Unit | 1651 | | |
| | (use as many | sheets as ne | cessary) | Examiner Name | Irene Marx | | |
| Sheet | 2 | of | 3 | Attorney Docket Number | A-72343 (470425-18) | | |

| | _ | NON PATENT LITERATURE DOCUMENTS | |
|-----------------------|-----------|---|----|
| Examiner Initials* | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T⁵ |
| | C14 | JUMPPONEN, A., et al., "Dark septate endophytes: a review of facultative biotrophic root-colonizing fungi", New Phytol., 1998, 140:295-310. | |
| book | C15 | KULDAU, G.A., et al., in <i>Microbial Endophytes</i> C. W. Bacon, J. F. White Jr., Eds. (Marcel Dekker, Inc., New York, 2000) pp. 85-117. | |
| isr | C16 * | LATCH, G.C.M., Physiological interactions of endophytic fungi and heir hosts, Biotic stress tolerance imparted to grasses by endophytes", Agricult. Ecosys. Environ., 1993, 44:143-156. | |
| | C17 | LEWIS, D.H., "Symbiosis and mutualism: crisp concepts and soggy semantics", The biology of Mutualism (ed. Boucher, D.H.) 29-39, Croom Helm Ltd., London, 1985. | |
| | C18 | MARKS, S., et al., "Effects of CO2 enrichment, nutrient addition, and fungal endophyte-infection on the growth of two grasses", Oecologia, 1990, 84:207-214. | |
| book | C19 | MORTON, J.B., "Biodiversity and evolution in mycorrhizae in the desert", Microbial Endophytes (eds. Bacon, C.W. & White, J.F.J.) 3-30 (Marcel Dekker, Inc., New York, NY, 2000. | |
| | C20 | PETRINI, O., "Taxonomy of endophytic fungi of aerial plant tissues", 1986, Microbiology of Phyllosphere (eds. Fokkema, N.J. & van den Heuvel, J., 175-187, Cambridge University Press, Cambridge. | |
| | C21 | PIROZYNSKI et al, "The origin of land plants: a matter of mycotrophism", Biosystems, 1975, 6:153-164. | |
| | C22 | READ, D.J., "Mycorrhiza-the state of the art", Mycorrhiza (eds. Varma, A. & Hock, B.) 3-34 (Springer-Verlag, Berlin, 1999). | Γ |
| | C23 | REDECKER et al., "Fungi from the Ordovician", Science, 2000, 289:1920-1921. | |
| isr | C24 * | REDMAN et al., "Biochemical analysis of plant protection afforded by a nonpathogenic endophytic mutant of Collectotrichum magna", Plant Physiol., 1999, 119:795-804. | Г |
| | C25 | REDMAN et al., "Fungal symbiosis: from mutualism to parasitism, who controls the outcome, host or invader?' New Phytol., 2001, 151:705-716. | Г |
| | C26 | REDMAN et al., "Thermotolerance Generated by Plant/Fungal Symphiosis", Science, Vol. 298, November 22, 2002, 1581 | Г |
| | C27 | REDMAN, R.S., et al., "Field performance of cucurbit and tomato plants colonized with a nonpathogenic mutant of Colletotrichum magna (teleomorph: Glomerella magna; Jenkins and Winstead), 2002, Symbiosis, 32:55-70. | Г |
| | C28 | SAIKKONEN, K., et al., Annu. Rev. Ecol. Syst. 29, 319-343 (1998). | Ī |
| book | C29 | SCHUTZ, B., "Bioactive Fungal Metabolites-Impact Exploitation", 2001, British Mycological Society, International Symposium Proceedings, University of Wales, April. | Г |
| | C30 | SIMON et al., "Origin and diversification of endomycorrhizal fungi and coincidence with vascular land plants", Nature, 1993, 363:67-69. | |
| book | C31 | SMALLWOOD, M.F., et al., "Plant Responses to Environmental Stress", 1999, BIOS Scientific Publishers Limited, Oxford. | |
| | C32 | SMITH, A.F., et al., "Structural diversity in (vesicular)-arbuscular mycorrhizal symbioses", New Phytol., 1997, 137:373-388. | Ī |
| | C33 | SMITH, K.P, et al., "Host variation for interactions with beneficial plant-associated microbes", Annu. Rev. Phytopathol., 1999, 37:473-492. | T |

| Examiner | | Date Considered | | |
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including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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| book | C34 | STONE, J.K., et al., in <i>Microbial Endophytes</i> C. W. Bacon, J. F. White Jr., Eds. (Marcel Dekker, Inc., New York, 2000) pp. 3-29. | T | | | | |
| isr | C35 * | TAYLOR et al., "Endophytic fungi associated with the temperate palm Trachycarpus fortunei, within and outside its natural geographic range", New Phytologist, May 1999, 142(2):335-346. | 1 | | | | |
| isr | C36 * | VARMA, A., et al., "Pirifmospora indica, a cultivable plant-growth-promoting rood endophyte", App. Environ. Microbiol., 1999, 65:2741-2744. | T | | | | |

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